

**Abstract of Disclosure**

A frequency domain reflectometer that is in electrical communication with a cable under test in order to determine cable characteristics including cable length and load characteristics such as capacitance, inductance, resistance, impedance (which is characterized as an open or short circuit condition), and the location of an open or short circuit, wherein the method of operation comprises the steps of generating an input signal, splitting the input signal to the cable under test and to a mixer, sending a reflected input signal to the mixer to thereby generate a mixed signal, removing high frequency components, digitizing a remaining component that contains information regarding impedance and length of the cable under test, performing the same steps for several different frequencies, and analyzing the plurality of digitized signals to thereby determine impedance and length of the cable under test.

CONFIDENTIAL - FEB 2007